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October 28, 1992

Mr. Carl Malsom
ARCS Program Manager
WW Engineering & Science
5555 Glenwood Hills Parkway SE
Post Office Box 874
Grand Rapids Michigan 49588-0874

US EPA RECORDS CENTER REGION 5



468010

File
Albion
04011 (Subc/R&R)

**Reference: Drilling Work in Albion Michigan
Change Order Number One**

Dear Mr. Malsom,

Please find the following enclosed:

- One (1) copy of the above referenced Change Order.

If we may be of further assistance, please do not hesitate to contact our office.

Respectfully,

R & R INTERNATIONAL, INC.

Susan L. Hatfield
Corporate Operations Assistant

/slh



WW Engineering & Science
A Summit Company

Date
Proj. No.:

October 14, 1992
04011 - No.3

CONTRACT CHANGE ORDER NO. 1

Albion-Sheridan Township
Landfill Site (11-5LAN)
Drilling and Monitoring Well Installation
Contract 04011 - No. 3
Albion, MI

R&R International, Inc.
1234 Cleveland-Massillon Road
Akron, OH 44321

The following changes are authorized in accordance with Articles 9, 10 and 11 of the GENERAL CONDITIONS:

The Subcontractor and Prime Contractor hereby agree to establish the following unit prices for water hauling activities and the use of water tanks during fluid rotary drilling and coring. The Subcontractor and Prime Contractor also agree that all other costs associated with fluid rotary drilling and coring shall be paid at the unit price rates established in the contract for air rotary drilling and air rotary coring.

<u>Item</u>	<u>Description</u>	<u>Unit</u>	<u>Unit Price</u>
*	Water Hauling for Fluid Rotary Drilling and Coring	HR	\$55.00/Hr.
*	Water Tank Use for Fluid Rotary Drilling and Coring	DAY	\$50.00/Tank/Day.

The Subcontractor and Prime Contractor also hereby agree to establish the following unit prices for additional work performed by the Subcontractor to address specific subsurface site conditions regarding the collapse of boreholes in fractured bedrock.

<u>Item</u>	<u>Description</u>	<u>Unit</u>	<u>Unit Price</u>
*	Mobilization of equipment	L.S.	\$500
*	Installing/pulling temporary 4-inch casing	Hour	\$120/Hour
*	Advance temporary 4-inch casing	Feet	\$29.50/Foot.
*	Wash rotary 3.875-inch bit (clean-out casing)	Hour	\$120/Hour

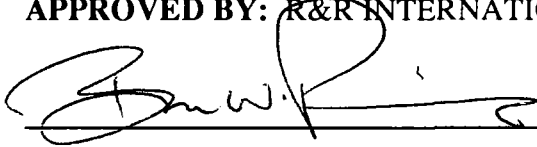
Justification

See attached Change Order Justifications.

Net change in contract price is \$0.00 and the total contract price remains at \$171,619.00.

The time provided for completion of the contract is unchanged. This document shall become an amendment to the contract and all provisions of the contract shall apply hereto.

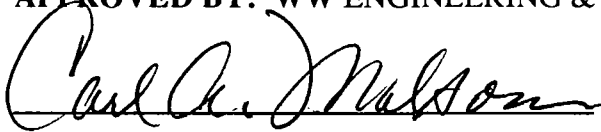
APPROVED BY: R&R INTERNATIONAL, INC.



10-27-92

Date

APPROVED BY: WW ENGINEERING & SCIENCE, INC.



October 21, 1992

Date

CHANGE ORDER JUSTIFICATION

Change Order No. 1

Project No. 04011 - No. 3

Subcontractor: R&R International, Inc.

Date: 10/14/92

Item No. * - Water Hauling and Water Tank Use

1. Why is this change necessary for completion of the work originally contemplated by the Contract?

Subsurface conditions in some locations resulted in the inability to retrieve drill cuttings and/or install the monitoring wells when utilizing air drilling methods. Fluid rotary methods should overcome these difficulties.

2. Why could the need for the proposed work not have been foreseen during preparation of plans and specifications?

Subsurface conditions specific to this site were unknown.

3. Are there any alternatives available?

No

4. Is this the most economical alternative?

Yes

CHANGE ORDER JUSTIFICATION (cont'd.)

Change Order No. 1

Project No. 04011 - No. 3

Subcontractor: R&R International, Inc.

Date: 10/14/92

Item No. * - Additional Work for Collapse of Boreholes

1. Why is this change necessary for completion of the work originally contemplated by the Contract?

During drilling operations, the collapse of boreholes in the fractured bedrock formation will result in locking-up the drilling equipment and the inability to retrieve drilling augers or cuttings. The subcontractor responded with additional efforts to free the drilling equipment and continue drilling operations.

2. Why could the need for the proposed work not have been foreseen during preparation of plans and specifications?

Subsurface conditions are unknown and responses must be made as the actual conditions develop.

3. Are there any alternatives available?

No

4. Is this the most economical alternative?

Yes